



Maine Coastal Islands National Wildlife Refuges



Atlantic puffin

2009 Highlights

- First Successful Breeding of Manx Shearwater in US
- Common Murres Attempt Nesting after 130 Year Absence
- Linda Welch named Region's Biologist of the Year
- Refuge Islands Prove to be Migration Hotspot for Songbirds
- Razorbill Restoration Funded by Oil Spill Settlement
- Coastwide Gull and Cormorant Survey Completed
- Historic Lighthouses Receive Critical Repairs
- Birch Point Trail Rehabilitation
- Friends of Maine Seabird Islands Assist with Visitor Center Acquisition



First murre egg next to decoy

2009 Program Highlights

Manx Shearwater Fledges on Matinicus Rock—U.S. First

On September 8th, biologists visiting Matinicus Rock discovered a fledging-age Manx Shearwater (*Puffinus puffinus*). While Manx Shearwaters were first observed on the island 12 years ago, this is the first time that a chick has fledged in the United States. The young bird was found after an extensive burrow search by refuge and Audubon biologists.

Manx Shearwaters nest throughout the eastern North Atlantic, especially in Great Britain. These crow-sized albatross relatives have a wingspan of nearly three feet, and are named for their habit of flying low over the water. Studies in Britain indicate that they may live 56 years and travel over five million miles during their long lives. Regular visitors to the western North Atlantic since the 1950's, their breeding was first confirmed in the US in 1973. At that time, a pair produced a chick on Penikese Island in Buzzard's Bay, Massachusetts, but the outcome of this nesting was not confirmed. In 1977, a second North American and first Canadian breeding record was confirmed on Middle Lawn Island in Newfoundland.

Matinicus Rock is located 26 miles offshore and has the distinction of being Maine's most diverse seabird nesting island. The refuge owns the island and cooperatively manages it with National Audubon Society's Seabird Restoration Program.



First Manx Shearwater fledgling

First Common Murres Attempt Nesting after 130 Years

In the 1800's, colonial nesting seabirds were hunted for their meat and eggs. One species in particular, Common Murre (*Uria aalge*), was extirpated from the state of Maine by the 1870's. For the past 17 years, National Audubon Society and the U.S. Fish and Wildlife Service have been cooperating to re-establish a nesting colony of these birds by using social attraction (decoys and sound systems). For the past several years up to 140 murres have been visiting Matinicus Rock each breeding season.

For the first time in over 130 years, a murre egg was laid on a Maine island. The egg was

laid surrounded by about 50 decoys, artificial eggs, and a nearby sound systems playing murre calls.

Unfortunately, the egg was later eaten, probably by a gull, but researchers are confident that successful nesting for the species will soon happen.

In addition to murres, Matinicus Rock provides breeding habitat for over 350 pairs of Atlantic Puffin and 389 pairs of Razorbill, 1,637 pairs of Common and Arctic Terns, 1,161 pairs of Laughing Gulls, and over 150 pairs of Leach's Storm-Petrels.

Linda Welch Named Region's First "Refuge Biologist of the Year"

Maine Coastal Island's Refuge Biologist Linda Welch was presented with the first annual Northeast Region Refuge Biologist of the Year award during the spring Project Leaders/Biologist Meeting in Virginia Beach.

Linda Welch has served as the Refuge Biologist at Maine Coastal Islands NWR since 1998. During that time she has proven herself as an exceptional biologist who has provided superior leadership at all levels, especially in the area of seabird restoration and conservation. She is a self-motivated professional who has worked closely with a myriad of partners to achieve significant gains in the restoration and research of endangered and threatened seabirds. While Biologist at the Refuge, three new seabird restoration projects have been undertaken, bringing the refuge total to six. Of the over 4,600 islands on the coast of Maine, these restorations islands now hold 98% of the Atlantic Puffins and 75% of all Razorbills occurring in the

U.S. In addition, over 97% of Arctic Terns in the U.S. nest on four of these restoration islands.



Left to right - Jan Taylor, Regional Biologist, Wendi Weber, Assistant Regional Director, Linda Welch, Refuge Biologist, Tony Leger, Chief of Refuges

Refuge Islands Prove to be Hotspot for Migrating Songbirds



Photo by Kirk Rogers

During a fall bird migration study conducted on three refuge islands this year, more than 4,500 songbirds representing 87 species were captured, far exceeding the numbers of birds captured at long-running banding stations. Stations were manned at Petit Manan, Seal, and Metinic islands.

Although all islands were busy with birds, Metinic Island stood out, having the greatest number of birds captured and observed flying overhead. While many banding stations operate up to fifty mist nets to capture and band birds, the researchers on Metinic were able to capture over 3,100 birds while operating a maximum of 10 nets over a nine week period. Based on the sampling effort,

researchers estimate that over one-half million songbirds could be using Metinic as a stopover on their way from the Canadian Maritimes to their wintering grounds. The work will be expanded next year when the refuge will partner with the University of Maine on a graduate student study.

Radar studies done in the region 20-30 years ago indicated that many songbirds fly offshore during spring and fall migration but little work has been done to document the actual flyways along the Maine coast. Due to proposed future island and offshore wind power projects, it is critical that we understand how migrating birds use the offshore waters and islands of the Gulf of Maine.

Razorbill Restoration Project Funded as a Result of Bow Mariner Oil Spill

Maine Coastal Islands NWR has been working with the Virginia Field Office on a Natural Resource Damage Assessment project involving an oil spill that occurred in February 2004, off the coast of Virginia. Shortly after the spill, aerial surveys identified over 2,000 migratory birds of 10 species within the area of the spill. Many of these birds were in the process of migrating north at the time of the incident. The Service concluded that Razorbills and Northern Gannets were the two species of the greatest conservation need which were likely to have suffered significant

injuries and mortality as a result of the incident.

As a result of the negotiations, the Service will receive over \$575,000. Based on a Razorbill restoration plan prepared by the refuge, a large portion of that money will be used over a 10 year period for a restoration program on refuge owned Eastern Brothers Island in Jonesport.

Maine is the only state in the US with breeding Razorbills and recent surveys found of the estimated 600 nesting pairs statewide, over 85% nest on four islands owned by the refuge.



Razorbill decoys—Eastern Brothers Island

Dramatic Changes in Breeding Gulls and Cormorants Based on Coastwide Survey

The refuge, in partnership with Maine Department of Inland Fisheries and Wildlife, completed a coastwide survey of breeding gulls and cormorants. Maine has over 250 miles of coastline, 4,600 islands and ledges, and over 385 of these islands have recent records of seabirds. The last coastwide survey was completed in 1995-96, using aerial photography to document the presence of nesting gulls. The 2008 survey included a combination of aerial surveys using digital photography, and ground-based colony surveys. Digital photos were flown for 225 islands and ground counts were completed on 68 islands. The survey documented

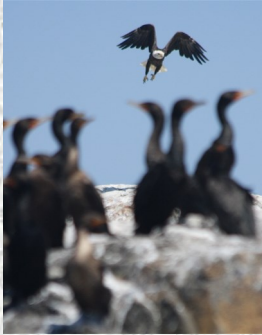


Photo by John Drury

8,418 pairs of Great Black-backed Gulls on 200 islands, 20,697 pairs of Herring Gulls on 182 islands, and 9,409 pairs of Double-crested Cormorants on 80 islands. A comparison of islands surveyed in both 1995-96 and 2008 time periods shows large declines in all three species. Great Black-backed Gulls declined 40%, Herring Gulls declined 39%, and Double-crested Cormorants declined 44%. The number of active cormorant colonies decreased by 35%.

One potential contributor to the gull and cormorant decline is the rapid growth and expansion of Maine's Bald Eagle population. In 1995, Maine had 192 active eagle nests compared to 477 nesting pairs which produced at least 300 fledglings in 2008. Young gulls and cormorants are a preferred food source for coastal eagles.

Historic Lighthouses Receive Critical Repairs

The refuge accepted five islands (with important seabird nesting habitat) and their lighthouses from the U.S. Coast Guard when the Coast Guard automated the lights and excessed the islands. Two of these lighthouses received significant repairs last fall.

Two Bush Island, located south of Rockland, had major structural problems with failed masonry joints throughout the structure. The Service contracted with International Chimney Corporation to perform the complex repairs. The work involved stabilizing the masonry on the upper third of the tower using a metal corset. The corset was then used to jack the deck and lantern up off the top course of brickwork. This allowed the workers to remove and replace the top eleven courses of brick-

work. The crew repaired all the other masonry joints, pressure washed the exterior and applied a fresh coat of breathable masonry waterproof paint.

Egg Rock Light, located just south of Bar Harbor, also received some much needed attention from refuge staff, Bar Harbor businesses, and community volunteers. Over the course of four work days the group stripped and shingled two sides of the generator building and portions of the lighthouse, scraped the remaining lighthouse roof shingles of debris and moss, bleached the siding and roof, and applied a fresh coat of stain to the roof. Local businesses donated lunches, a five person professional work crew, and boat support.



Two Bush prior to repairs



Two Bush after repairs

Refuge Staff and Student Conservation Interns Rehabilitate Birch Point Trail



SCA's assist refuge staff on trail rehab.

One of the refuge's major walking trails on Petit Manan Point is well on the way to being completely rehabilitated. This three-mile trail has always had drainage problems and winter storms had left miles of blown-over trees. Based on a cost estimate from the Federal Highway Administration, repairs were projected to cost \$60,000. The refuge offered to complete the project ourselves rather than contracting the job. We expect to complete the project for less than half of the estimated amount.

This year, Jim Fortier, the refuge's boat operator and maintenance person, along with assistance

from Craig Smith, seasonal maintenance worker, and two hard working Student Conservation Association interns, completed an amazing amount of work. Accomplishments included: clearing 3.5 miles of blown-down trees, rerouting 700 feet of trail away from wet areas, installing 200 feet of boardwalk, 880 feet of drainage, and six water bars to limit trail erosion.

Work will be completed this summer and fall with a trail finish coat, additional sections of drainage and boardwalk installed, and installation of new interpretive panels.

Monitoring Studies Initiated in Advance of Future Offshore Wind Power Projects



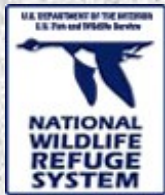
Photo credit: Alternative Energy Magazine

In 2009, Governor Baldacci convened an Ocean Energy Task Force which was charged with evaluating potential wind energy demonstration sites in the coastal waters of Maine. The task force was also directed to recommend solutions to overcome potential economic, technical, regulatory, and other obstacles to vigorous and expeditious development of ocean energy resources. Several proposed sites being considered for development are adjacent to refuge islands.

Researchers have found that bats are especially vulnerable to wind turbines. The rapid pressure drop that occurs as air flows over the turbine blades causes internal hemorrhaging within the bats lungs, referred to as barotrauma.

Given the lack of offshore bat migration data, the refuge collaborated with Stantec, a private environmental and consulting firm, to initiate bat monitoring on Petit Manan, Matinicus Rock, and Metinic islands. In July, digital bat acoustic systems were installed on top of two refuge lighthouses, and a temporary tower was erected on Metinic Island, to monitor fall bat migration. Additional bat and bird monitoring systems were installed on islands managed by the National Park Service, US Coast Guard, College of the Atlantic, and the Gulf of Maine Research Institute. Combined, these efforts will provide the first glimpse of bat migration across the Gulf of Maine.

In 2010, the refuge will also begin critical research projects to identify key foraging areas and movements of Atlantic Puffins and Greater Shearwaters. New technologies including satellite transmitters and geo-loggers will be employed to better understand key feeding areas for these species. These projects, combined with data gathered from our bird fall migration studies, will assist in guiding proper placement of future wind power projects.



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Manager's Corner

The return of Common Murres, the decline in gulls and cormorants, and the Manx Shearwater fledging all demonstrate that our ecosystems are in a constant state of flux. Change may even increase in the future, due to climate change and to renewable energy projects. This highlights how critical the refuge's many monitoring, inventory and research projects are to understanding what is happening and adjusting our management to support continued successful seabird restoration. Our biologists do amazing work!



We need people to understand our work and its implications, so we are developing a visitor services program – something lacking here. In the past year, with hard work from our enthusiastic maintenance staff and summer conservation interns, insights and inspiration from an outreach professional from Yale, and funding from the region for several projects, we have been busy: improving the trail and designing new signs for Birch Point at Petit Manan Point, improving access and creating a new trail at the Gouldsboro Bay Division, producing exciting new “decoys” that will attract humans to our messages, and working on materials that will reach visitors that see the refuge islands and birds from tour boats. Most exciting of all, through the great support from Friends of Maine Seabird Islands, we will soon have a new headquarters and visitor center! Look for exciting things in 2010!

Beth Goettel, Refuge Manager